

WHAT IS CLAIMED IS:

1. A driving method for an electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the driving method comprising:

setting level values, as data for the corresponding sub-fields that is supplied to the pixels, by selecting the level values from among three or more different level values in accordance with gradation data in such a manner that the absolute value of the amount of change in data between adjacent sub-fields is a predetermined amount of change or less; and

performing the gradation display of the pixels by supplying the data set for the corresponding sub-fields to the pixels.

2. A driving method for an electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the driving method comprising:

setting level values, as data for the corresponding sub-fields that is supplied to the pixels, by selecting the level values from among three or more different level values in accordance with gradation data in such a manner that the level values are adjacent to each other; and

performing the gradation display of the pixels by supplying the data set for the corresponding sub-fields to the pixels.

3. A driving method for an electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the driving method comprising:

selecting level values, as data for the corresponding sub-fields that is supplied to the pixels, from among three or more different level values in accordance with gradation data and of changing the level values within the adjacent level values in accordance with an increase of gradation values defined by the gradation data; and

performing the gradation display of the pixels by supplying the data set for the corresponding sub-fields to the pixels.

4. The driving method for an electro-optical device according to Claim 1, the data being a data voltage, and the level values being set by voltage values.

5. The driving method for an electro-optical device according to Claim 1, the data being a data current, and the level values being set by current values.

6. A driving method for an electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the driving method comprising:

setting level values, as data for the corresponding sub-fields that is supplied to the pixels, by selecting the level values from among a plurality of different level values in accordance with gradation data;

writing the data to the pixels by supplying the data set for the corresponding sub-fields to the pixels by current levels; and

performing the gradation display of the pixels by setting driving currents corresponding to the data written to the pixels and by supplying the set driving currents to electro-optical elements that emit light at brightnesses corresponding to the driving currents.

7. An electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the electro-optical device comprising:

a plurality of scanning lines;

a plurality of data lines;

a plurality of pixels provided in accordance with crossing of the scanning lines and the data lines;

a scanning line driving circuit that selects one of the scanning lines corresponding to one of the pixels to which data is written by outputting a scanning signal to the one of the scanning lines;

a data conversion circuit that sets level values, as the data for the corresponding sub-fields, the data being generated by converting gradation data, by selecting the level values from among three or more different level values in such a manner that the amount of change in data between adjacent sub-fields is a predetermined amount of change or less; and

a data line driving circuit that cooperates with the scanning line driving circuit and that outputs the data for the corresponding sub-fields, the data being generated by the data conversion circuit, to one of the data lines corresponding to the one of the pixels to which the data is written.

8. The electro-optical device according to Claim 7, the predetermined amount of change being one step level corresponding to the amount of change between the level values that are adjacent to each other.

9. An electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the electro-optical device comprising:

- a plurality of scanning lines;
- a plurality of data lines;
- a plurality of pixels provided in accordance to crossing of the scanning lines and the data lines;

a scanning line driving circuit that selects one of the scanning lines corresponding to one of the pixels to which data is written by outputting a scanning signal to the one of the scanning lines;

a data conversion circuit that sets level values, as the data for the corresponding sub-fields, the data being generated by converting gradation data, by selecting the level values from among three or more different level values in such a manner that the level values are adjacent to each other; and

a data line driving circuit that cooperates with the scanning line driving circuit and outputs the data for the corresponding sub-fields, the data being generated by the data conversion circuit, to one of the data lines corresponding to the one of the pixels to which the data is written.

10. An electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the electro-optical device comprising:

a plurality of scanning lines;

a plurality of data lines;

a plurality of pixels provided in accordance to crossing of the scanning lines and the data lines;

a scanning line driving circuit that selects one of the scanning lines corresponding to one of the pixels to which data is written by outputting a scanning signal to the one of the scanning lines;

a data conversion circuit that selects the data for the corresponding sub-fields, the data being generated by converting gradation data, from among three or more different level values and that changes the level values within the adjacent level values in accordance with an increase of gradation values defined by the gradation data; and

a data line driving circuit that cooperates with the scanning line driving circuit and that outputs the data for the corresponding sub-fields, the data being generated by the data

conversion circuit, to one of the data lines corresponding to the one of the pixels to which the data is written.

11. The electro-optical device according to Claim 7, the data line driving circuit outputting the data for the corresponding sub-fields to the one of the data lines by voltage levels.

12. The electro-optical device according to Claim 11, the one of the pixels including:

a switching element whose conduction is controlled by the scanning signal for the one of the scanning lines; and

an electro-optical element including a pair of electrodes and liquid crystal held between the pair of electrodes, the transmittance or the reflectance of the electro-optical element being changed in accordance with the data supplied by voltage levels from the one of the data lines via the switching element.

13. The electro-optical device according to Claim 11, the one of the pixels including:

a switching element whose conduction is controlled by the scanning signal for the one of the scanning lines;

a holding device to hold the data supplied by voltage levels from the one of the data lines via the switching element;

a driving element that generates corresponding driving currents in accordance with the data held by the holding device; and

an electro-optical element that emits light at brightnesses corresponding to the driving currents.

14. The electro-optical device according to Claim 7, the data line driving circuit outputting the data for the corresponding sub-fields to the one of the data lines by current levels.

15. The electro-optical device according to Claim 14, the one of the pixels including:

a switching element whose conduction is controlled by the scanning signal for the one of the scanning lines;

a holding device to hold the data supplied by current levels from the one of the data lines via the switching element as data of voltage levels;

a driving element that generates corresponding driving currents in accordance with the data held by the holding device; and

an electro-optical element that emits light at brightnesses corresponding to the driving currents.

16. An electro-optical device that performs gradation display of pixels by using a plurality of sub-fields defined by dividing a predetermined period, the electro-optical device including:

a plurality of scanning lines;

a plurality of data lines;

a plurality of pixels provided in accordance to crossing of the scanning lines and the data lines, each of the pixels including a holding device to hold data, a driving element that sets corresponding driving currents in accordance with the data held by the holding device; and an electro-optical element that emits light at brightnesses corresponding to the set driving currents;

a scanning line driving circuit that selects one of the scanning lines corresponding to one of the pixels to which the data is written by outputting a scanning signal to the one of the scanning lines;

a data conversion circuit that sets level values, as data for the corresponding sub-fields that is supplied to the pixels, by selecting the level values from among a plurality of level values of different voltage values in accordance with gradation data; and

a data line driving circuit that cooperates with the scanning line driving circuit and that outputs, by current levels, the data of voltage levels for the corresponding sub-fields, the data being generated by the data conversion circuit and being converted into data of current levels, to one of the data lines corresponding to the one of the pixels to which the data is written.

17. An electronic apparatus provided with the electro-optical device as set forth in Claim 7.